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Universal Electromotive Force Induced by Domain Wall Motion¹

QIAN NIU, SHENGYUAN YANG, GEOFFREY BEACH, CARL KNUTSON, DI XIAO, MAXIM TSOI, JAMES ERSKINE, The University of Texas at Austin — The electromotive force induced by a moving magnetic domain wall in a nanostrip has been calculated theoretically and detected experimentally. It is found that the emf depends only on the domain wall transformation frequency through a universal Josephson type relation, which is closely related to the topological nature of the domain wall. Our experimental measurements confirm the theoretical prediction.

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